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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/502,220

01/31/2005

Oscar Julian Sanchez Ferreras

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EXAMINER

KIM, WESLEY LEO

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/502,220	<b>Applicant(s)</b> SANCHEZ FERRERAS ET AL.	
	<b>Examiner</b> Wesley L. Kim	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is in response to amendment filed 4/13/07.

- Claims 2-15 are currently amended.
- Claim 16 is newly added.
- Claims 2-16 are pending in the current Office Action.

### ***Response to Arguments***

Applicant's arguments with respect to claims 2-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 3, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joss et al (U.S. Patent 6684073 B1) in view of McCombe (GB 2280085 A) and Ahn et al (U.S. Patent 6681111 B2).

**Regarding Claim 15**, Joss teaches a system for tracking mobile telephone subscriber units traveling between a home network and a foreign network (Col.2;14-16, the HLR keeps track of location of roaming subscribers) to permit provision of specific services which are not provided for in general mobile telephony standards but which are contracted (Col.1;44-48 and Col.1;55-61) for

by said subscriber in his or her home network, when said subscriber is in the foreign network (Col.1;44-48 and Col.1;55-61, forwarding calls to a mobile terminal is a special service which requires a roaming agreement, i.e. a contract) and for storing information indicative thereof (Col.2;14-16, info stored in HLR), the home network and the foreign network interconnected through a gateway (Fig.1;3 and Col.5;14-16, i.e. conversion device), said gateway (Fig.1;3, conversion device, i.e. gateway) being arranged to provide communication with the mobile subscriber accessing the respective foreign network and to provide, as part of the normal operation of the networks, for the transmission of signaling parameters between the foreign network and the home network (Col.7;26-34, converts data from one network into the appropriate protocol data units so the data may be forwarded to another network), said signaling parameters including an indication of mobile subscribers entering and exiting the foreign network (Col.2;4-16, the HLR keeps track of location of roaming subscribers, i.e. entering and exiting the foreign network), as well as data regarding the foreign network and data regarding the mobile subscriber (Col.2;1-16, data stored in the VLR, i.e. foreign network, is sent to the HLR, and IMSI identifying a subscriber is data regarding the mobile subscriber), the home network including a first data storage unit operative to store an indication that said mobile subscriber is in the foreign network in response to said signaling parameters (Col.2;4-16, HLR stores information); wherein the system comprises: a data processing unit connected between the gateway and the home network (Fig.1;4, HLR has a CPU), a data

analysis unit coupled to the data processing unit (Fig.1;4, inherent CPU has software for analyzing); said data processing unit being operative to detect, on the basis of information circulating through the gateway (Col.7;26-34, conversion module, i.e. gateway, permits information to go from one network to another), the signaling parameters including the indication of entrance and exit of the one or more mobile subscribers in and from the respective foreign network (Col.2;4-16, the HLR keeps track of location of roaming subscribers, i.e. entering and exiting the foreign network), the data regarding the foreign network and the data regarding the mobile subscriber (Col.2;1-16, data stored in the VLR, i.e. foreign network, is sent to the HLR, and IMSI identifying a subscriber is data regarding the mobile subscriber), the data processing unit further being operative to separate and send the detected signaling parameter data to the data analysis unit (Col.1;44-48 and Fig.1;4, inherent CPU sends data to software for analyzing), the data analysis unit being operative to identify subscribers of the associated home network entering and exiting a foreign network (Col.2;4-16, the HLR keeps track of location of roaming subscribers, i.e. entering and exiting the foreign network), and to generate identifying data regarding the foreign network and the mobile subscribers in the foreign network (Col.2;14-16, information about location of subscriber and visited network stored so it has to have been generated), however the combination **is silent on** the home network and the foreign network being part of a plurality of mobile telephone networks, a second data storage unit coupled to the data processing unit; and a special service

module, and the data analysis unit being further operative to provide the identifying data generated thereby to the second data storage unit, the second data storage unit being operative to store the identifying data, the contracted service module being responsive to the identifying data stored in the second data storage unit to provide contracted special services to the mobile subscriber unit in the foreign network in real time by referring only to the identifying data stored in the second data storage unit to determine the location of the mobile subscriber unit.

McCombe teaches the foreign network being one of a plurality of foreign networks (Pg.10;4-10, A, B, C). Although Fig.1 of Joss only shows that the home network is connected to one foreign network McCombe teaches that it is very well known in the art that a home network is connected to a plurality of foreign networks and McCombe further teaches that an MSC, i.e. special service module, is responsive to identifying the data stored in an HLR to provide contracted special services to the mobile subscribers in the foreign networks (Pg.14;19 – Pg.15;1-3, any charging information associated with calls, i.e. forwarded calls, are billed to the subscriber).

Ahn teaches that an International Roaming Gateway System (IRGS, i.e. second storage unit) functions as an HLR to read the location of the roaming subscriber (Col.4;35-40). Ahn further teaches the contracted service module (i.e. MSC) being responsive to the identifying data stored in the second data storage

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unit (Col.11;31-48, i.e. MSC is responsive to identifying data stored in the second data storage unit (i.e. IRGS)).

To one of ordinary skill in the art it would have been obvious to modify, Joss with McCombe and Ahn such that the home network and the foreign network being part of a plurality of mobile telephone networks, a second data storage unit coupled to the data processing unit; and a contracted service module, and the data analysis unit being further operative to provide the identifying data generated thereby to the second data storage unit, the second data storage unit being operative to store the identifying data, the contracted service module being responsive to the identifying data stored in the second data storage unit to provide contracted special services to the mobile subscribers in the foreign network in real time by referring only to the identifying data stored in the second data storage unit to determine the location of the mobile subscriber unit, to provide a method where calls can be forwarded to a specified number as desired by the subscriber and then billed to the subscriber.

Regarding Claim 3 and 8, the combination as taught above teaches all the limitations as recited in claim 1 and claim 2, respectively, however the combination **is silent on** an event-based service module (9) connected to an event generator (11) and arranged so that when the event generator (11) generates a service for subscribers located in foreign networks, the event-based service module (9) accesses the storage means (7) to obtain the information on which subscribers are located in foreign networks (3).

Joss teaches that calls are forwarded to the respective mobile phone in the respective foreign network (Col.1,44-48). To the examiner this reads on the claim, since one of ordinary skill in the art would find it obvious that the CPU within the HLR will access from the HLR storage (i.e. access data from the storage) means the information necessary to forward the call (i.e. generate a service) to the appropriate mobile phone and appropriate foreign network. It is obvious that there exists some sort of event generator and event based module for accessing data from the storage means and for generating a service.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, such that an event-based service module (9) is connected to an event generator (11) and arranged so that when the event generator (11) generates a service for subscribers located in foreign networks, the event-based service module (9) accesses the storage means (7) to obtain the information on which subscribers are located in foreign networks (3), to provide services to said subscribers in the foreign network.

2. Claim 2, 5-7, 9, 10, 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Joss et al (U.S. Patent 6684073 B1), McCombe (GB 2280085 A), and Ahn et al (U.S. Patent 6681111 B2) in further view of Nilsson (WO 01/10109 A2).

Regarding Claim 2, Joss, McCombe, and Ahn teach all the limitations as recited in claim 1, however the combination **is silent on** wherein the analysis means (6) are connected to a real time service module (8) and arranged to inform said real time service module (8) every time the analysis means detect an



entrance/exit of a subscriber in a foreign network, in order to make it possible for the real time service module (8) to immediately provide real time services to the subscribers in a foreign network.

Nilsson teaches that a MAP protocol enables real time transfer of charging related information (Pg.6;7-9) and Joss teaches that the Home network (which was taught to have an Analysis means in the rejection of claim 1) has a MAP-PDU-H2 data unit (Col.10;23-26 and Fig.2, i.e. real-time module) connected to it.

Nilsson further teaches that it is possible to monitor the charging related activities of roaming subscribers (Col.6;10-11). To one of ordinary skill in the art it is obvious that the analysis means must inform the real time service module every time it detects an entrance/exit of a subscriber in a foreign network to monitor charging related activities in real time.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, McCombe, and Ahn, such that the analysis means (6) are connected to a real time service module (8) and arranged to inform said real time service module (8) every time the analysis means detect an entrance/exit of a subscriber in a foreign network, in order to make it possible for the real time service module (8) to immediately provide real time services to the subscribers in a foreign network, to provide a method of keeping track of the location of users and reducing the chance of fraud by roaming subscribers.

Regarding Claim 5, the combination as discussed above teach all the limitations as recited in claim 2, however the combination **is silent on** upon

detecting an entrance of a subscriber into a foreign network, said analysis means consider that the subscriber has entered into a foreign network, storing this information in the storage means (7), updating the current subscriber location and communicating this to the real time service module (8).

Nilsson teaches the HLR maintains a record of all the subscribers all the home network (Pg.2;22-24) and the HLR sending a subscriber update message to the VLR (Pg.5;16-18). To the examiner it is obvious that the entrance of the subscriber is detected by the analysis means upon registration of the terminal (Pg.5;4-14) and this information must be communicated to the real time service module in order to provide real time services (Pg.2;11-13 and Pg.6;8-9).

Regarding Claim 6, the combination as discussed above teach all the limitations as recited in claim 2, however the combination **is silent on** the analysis means (6) are arranged so that when said analysis means detect an exit of a subscriber from a foreign network (3), the analysis means (6) verify whether notification has been received that the subscriber has entered into another foreign network (3), the analysis means further being arranged so that: if the result of the verification is affirmative, the analysis means consider that the subscriber has entered into another foreign network, storing this information and updating the current subscriber location in the storage means (7), and communicating this to the real time service module (8); whereas if the result of the verification is negative, the analysis means consult the home network (1) to verify whether the subscriber has again entered the home network, and if an

affirmative response is obtained, the analysis means eliminate the corresponding entry in the storage means (7) and report this to the real time service module.

Nilsson teaches that an HLR maintains a record of all the subscribers of the home network (Pg.4, i.e. directory number, current location, profile information) and to one of ordinary skill in the art, it is obvious that if a subscriber roams out of the home region then the HLR's analysis means (i.e. CPU) determines if a subscriber has roamed into a foreign network. If a subscriber has roamed into a foreign network the analysis means will receive an affirmation from the VLR of the visited system however if the subscriber cannot be found (i.e. the subscriber got on a plane and turned off the phone) the analysis means will receive no affirmation (i.e. a negative verification) so therefore the HLR will check all possible locations where the phone may be, (i.e. home network). If the user is found the HLR will update its records (Pg.5;4-22) to keep an accurate record of all the subscribers of the home network (Pg.4;21-24).

Regarding Claims 7, 10, and 14, Joss, McCombe, and Ahn teach all the limitations as recited in claim 1, claim 3, and claim 8, respectively, however the combination **is silent on** wherein the storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems.

Nilsson teaches an HLR maintaining a record of all subscribers of the home network (Pg.4;22-24). It is obvious that a log of a subscriber in a foreign network is kept.

McCombe teaches one HLR accessing subscriber information from another HLR (Pg.14;19-24) so it is obvious that the storage means containing a log of visits made by each subscriber to the foreign network is consulted by other systems.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, McCombe, and Ahn, such that storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems, to provide a method of accessing information that is already available to processing calls more quickly.

Regarding **Claims 9, 12, and 13**, Joss, McCombe, Ahn and Nilsson teach all the limitations as recited in claim 2, claim 5 and claim 6, and Nilsson further teaches an HLR maintaining a record of all subscribers of the home network (Pg.4;22-24). It is obvious that a log of subscribers in foreign networks are kept, however the combination **is silent on** wherein the storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems.

Nilsson teaches McCombe teaches one HLR accessing subscriber information from another HLR (Pg.14;19-24) so it is obvious that the storage means containing a log of visits made by each subscriber to the foreign network is consulted by other systems.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, McCombe, Ahn, and Nilsson, such that storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems, to provide a method of accessing information that is already available to processing calls more quickly.

3. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Joss et al (U.S. Patent 6684073 B1), McCombe (GB 2280085 A), and Ahn et al (U.S. Patent 6681111 B2) in further view of Yamaguchi et al (U.S. Patent 6002931).

Regarding Claim 4, Joss, McCombe, and Ahn teach all the limitations as recited in claim 1, however the combination **is silent on** the storage means (7) are arranged to contain data regarding features of each foreign network (3), in order to make it possible for the system to determine which network different received data belong to, and to adapt the contracted services to the features of the foreign network in which the subscriber is located.

Yamaguchi teaches an HLR of a home network keeping a database record for network identities of visited networks (Col.1;44-48) and Yamaguchi further teaches retrieving data of the visited network and establishing a traffic channel in accordance with the results (Col.1;64-Col.2;5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, McCombe, and Ahn, such that the storage means (7) are arranged to contain data regarding features of each foreign network (3), in

order to make it possible for the system to determine which network different received data belong to, and to adapt the contracted services to the features of the foreign network in which the subscriber is located, to provide a method of successfully providing the appropriate services for subscribers roaming in different networks.

4. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Joss et al (U.S. Patent 6684073 B1), McCombe (GB 2280085 A), Ahn et al (U.S. Patent 6681111 B2), and Yamaguchi et al (U.S. Patent 6002931) in further view of Nilsson (WO 01/10109 A2).

Regarding Claim 11, Joss, McCombe, Ahn, and Yamaguchi teach all the limitations as recited in claim 4, however the combination **is silent on** wherein the storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems.

Nilsson teaches an HLR maintaining a record of all subscribers of the home network (Pg.4;22-24). It is obvious that a log of a subscriber in a foreign network is kept.

McCombe teaches one HLR accessing subscriber information from another HLR (Pg.14;19-24) so it is obvious that the storage means containing a log of visits made by each subscriber to the foreign network is consulted by other systems.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Joss, McCombe, Ahn and Yamaguchi such that storage means (7) are arranged to store a log of all the visits made by each subscriber to the foreign networks so as to permit consultation thereof by other systems, to provide a method of accessing information that is already available to processing calls more quickly.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley L. Kim whose telephone number is 571-272-7867. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WLK

A handwritten signature in black ink, appearing to read 'W. L. K.', with a stylized, cursive script.A handwritten signature in black ink, appearing to read 'George Eng.', with a stylized, cursive script.

GEORGE ENG  
SUPERVISORY PATENT EXAMINER